H1227

0055514

Eberline Services
W.O. No. R1-01-147-7620

Bechtel Hanford Inc.
SDG H1227

Case Narrative

1.0 GENERAL

Bechtel Hanford Inc. (BHI) Sample Delivery Group H1227 was composed of one water sample designated under SAF No. C01-015 with a Project Designation of: 200 UP1 IAM GW Monitoring, January 2001.

The sample was received as stated on the Chain-of-Custody document. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist.

2.0 ANALYSIS NOTES

2.1 Technetium-99 Analyses

No problems were encountered during the course of the analyses.

Case Narrative Certification Statement

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

Melissa Mannion — 3/9/01

Melissa C. Mannion
Program Manager

Date

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1227

SAMPLE SUMMARY

SDG 7620
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1227

CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	LAB SAMPLE ID	SAF NO	CHAIN OF CUSTODY	COLLECTED
B113Y2	Hanford Site	WATER		R101147-01	C01-015	C01-015-6	01/23/01 12:43
Method Blank		WATER		R101147-03	C01-015		
Lab Control Sample		WATER		R101147-02	C01-015		
Duplicate (R101147-01)	Hanford Site	WATER		R101147-04	C01-015		01/23/01 12:43

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CS
Version 3.06
Report date 03/09/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1227

QC SUMMARY

SDG 7620
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1227

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7620	C01-015-6	B113Y2	WATER				01/25/01	2	R101147-01	7620-001
		Method Blank	WATER						R101147-03	7620-003
		Lab Control Sample	WATER						R101147-02	7620-002
		Duplicate (R101147-01)	WATER				01/25/01	2	R101147-04	7620-004

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 03/09/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1227

PREP BATCH SUMMARY

SDG 7620
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1227

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
TC	WATER	Technetium 99 in Water	6963-108	10.0	1			1	1	1/1		

Duplicates and Matrix Spikes are those with original (Client) sample in this Sample Delivery Group.
Blank and LCS planchets are those in the same preparation batch as some Client, Duplicate or Spike sample.

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 03/09/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1227

WORK SUMMARY

SDG 7620
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1227

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
B113Y2			R101147-01	7620-001	TC		02/08/01	03/09/01	MCM	Technetium 99 in Water
Hanford Site		WATER	01/23/01							
C01-015-6	C01-015		01/25/01							
Method Blank			R101147-03	7620-003	TC		02/06/01	03/09/01	MCM	Technetium 99 in Water
		WATER								
	C01-015									
Lab Control Sample			R101147-02	7620-002	TC		02/05/01	03/09/01	MCM	Technetium 99 in Water
		WATER								
	C01-015									
Duplicate (R101147-01)			R101147-04	7620-004	TC		02/06/01	03/09/01	MCM	Technetium 99 in Water
Hanford Site		WATER	01/23/01							
	C01-015		01/25/01							

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
TC	C01-015	Technetium 99 in Water	TC99_TR_SEP_LSC	1			1	1	1	4
TOTALS				1			1	1	1	4

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 03/09/01

TMA / RICHMOND
SAMPLE DELIVERY GROUP H1227

R101147-03

Method Blank

METHOD BLANK

SDG	7620	Client/Case no	Hanford	SDG H1227	
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925		
Lab sample id	R101147-03	Client sample id	Method Blank		
Dept sample id	7620-003	Material/Matrix		WATER	
		SAF No	C01-015		

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Technetium 99	14133-76-7	-1.26	4.8	14	15	U	TC

200 UP1 IAM GW Mon., Jan. 2001

QC-BLANK 37425

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/09/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1227

R101147-02 Lab Control Sample

LAB CONTROL SAMPLE

SDG 7620 Client/Case no Hanford SDG H1227

Contact Melissa C. Mannion Case no TRC-SBB-207925

Lab sample id R101147-02 Client sample id Lab Control Sample

Dept sample id 7620-002 Material/Matrix WATER

SAF No C01-015

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Technetium 99	2440	56	13	15		TC	2360	94	103	83-117	80-120

200 UP1 IAM GW Mon., Jan. 2001

QC-LCS 37424

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 03/09/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1227

R101147-04 B113Y2

DUPLICATE

SDG 7620 Client/Case no Hanford SDG H1227

Contact Melissa C. Mannion Case no TRC-SBB-207925

DUPLICATE		ORIGINAL		
Lab sample id	R101147-04	Lab sample id	R101147-01	Client sample id B113Y2
Dept sample id	7620-004	Dept sample id	7620-001	Location/Matrix Hanford Site WATER
		Received	01/25/01	Collected 01/23/01 12:43
				Custody/SAF No C01-015-6 C01-015

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ PROT TOT LIMIT
Technetium 99	138	18	11	15		TC	138	10	12		0	31

200 UP1 IAM GW Mon., Jan. 2001

QC-DUP#1 37426

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 03/09/01

TMA / RICHMOND

SAMPLE DELIVERY GROUP H1227

R101147-01 **B113Y2**

DATA SHEET

SDG	7620	Client/Case no	Hanford SDG H1227
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925
Lab sample id	R101147-01	Client sample id	B113Y2
Dept sample id	7620-001	Location/Matrix	Hanford Site WATER
Received	01/25/01	Collected	01/23/01 12:43
		Custody/SAF No	C01-015-6 C01-015

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Technetium 99	14133-76-7	138	10	12	15		TC

200 UP1 IAM GW Mon., Jan. 2001

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/09/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1227

METHOD SUMMARY

TECHNETIUM 99 IN WATER

BETA COUNTING

Test TC Matrix WATER
SDG 7620
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Contract SDG H1227

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Technetium 99
Preparation batch 6963-108					
B113Y2	R101147-01			7620-001	138
BLK (QC ID=37425)	R101147-03			7620-003	U
LCS (QC ID=37424)	R101147-02			7620-002	ok
Duplicate (R101147-01)	R101147-04			7620-004	ok
Nominal values and limits from method				RDLs (pCi/L)	15
200 UP1 IAM GW Mon., Jan. 2001					

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6963-108	2σ prep error 10.0 %				Reference Lab Notebook 6963 pg. 108											
B113Y2	R101147-01			12	0.0500			83	50				16	02/01/01	02/08	GRB-222
BLK (QC ID=37425)	R101147-03			14	0.0500			71	50					02/01/01	02/06	GRB-219
LCS (QC ID=37424)	R101147-02			13	0.0500			78	50					02/01/01	02/05	GRB-230
Duplicate (R101147-01) (QC ID=37426)	R101147-04			11	0.0500			87	50				14	02/01/01	02/06	GRB-220
Nominal values and limits from method				15	0.0500			20-105	50				180			

PROCEDURES	REFERENCE	TC99_TR_SEP_LSC
	CP-021	Preparation of Tc-99m Tracer, rev 0
	CP-002	Q.C. Preparation, rev 2
	CP-003	Tracing, rev 2
	CP-541	Technetium-99 Purification (Water) by Extraction Chromatography, rev 0
	CP-008	Heavy Element Electroplating, rev 3

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 12 ± 2.6
YIELD 80 ± 14

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/09/01

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-015-6

Page 1 of 1

Collector D.R. BREWINGTON	Contact/Requester JH KESSNER	Telephone No. (509) 375-4688 MSIN FAX
SAF No. C01-015	Sampling Origin HANFORD SITE H1227 (7620)	Purchase Order/Charge Code SAL-79
Project Title 200 UP1 IAM GW MONITORING, JANUARY 2001	Logbook No. WM-SAWS - HH1	Ice Chest No. ~~SAL-237~~ Temp.
Shipped To (Lab) TMA/RECRA	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No. 4235-7954-1538
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704)
Submit deliverable & invoices to JH Kessner, BHI

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B113Y2		W	1/23/01	1243	1x20-mL P	Activity Scan	None
B113Y2		W	1	1	1x1000-mL G/P	Technetium-99	HCl to pH <2

Relinquished By D.R. BREWINGTON Sign	Date/Time 1500 1/24/01	Received By Print Sign FED EX	Date/Time 1-24-01
Relinquished By FED EXPRESS	Date/Time 10:AM 1-25-01	Received By E. Regnier	Date/Time 10:AM 1-25-01
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

ThermoRetec **Analytical Services**
Richmond Laboratory

ICE CHEST RECEIPT LOG

Use one form per shipment. Refer to Thermometer Correction Log for correction factor.

Customer: (WMTS) BECHTEL HANFORD (PNNL) Date: 1-25-01 10:Am

Ice chest # or description	SML-79					
Thermometer: time in	1:00 PM					
Thermometer: time out						
Thermometer reading						
Thermometer number	2132					
Correction factor	NONE					
Actual temperature*	—					
Custody seals on ice chest intact?	Yes					
Custody seals dated ?	Yes					
Custody seals signed?	Yes					
Custody seals on samples?	Yes					
Ice chest scanned for activity?	Yes					

* Temperature is in degrees centigrade.

Technician:_____

Comments:_____

SAMPLE RECEIPT CHECKLIST

SAMPLE RECEIPT

Client: (WMTS) BECHTEL HANFORD (PNNL) Date/Time received 1-25-01 10:00 AM

CoC No. CO1-015-6

Container I.D. No. SML-79 Requested TAT (Days) 45 P.O. Received Yes [ ] No [ ]

INSPECTION

1.	Custody seals on shipping container intact?	Yes [ ]	No [ ]	N/A [ ]
2.	Custody seals on shipping container dated & signed?	Yes [ ]	No [ ]	N/A [ ]
3.	Custody seals on sample containers intact?	Yes [ ]	No [ ]	N/A [ ]
4.	Custody seals on sample containers dated & signed?	Yes [ ]	No [ ]	N/A [ ]
5.	Cooler Temperature: _____	Packing material is:	Wet [ ]	Dry [ ]
6.	Number of samples in shipping container: 1			
7.	Number of containers per sample: (2 EACH)	(Or see CoC _____)		
8.	Paperwork agrees with samples?	Yes [ ]	No [ ]	
9.	Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [ ]			
10.	Samples are: In good condition [ ] Leaking [ ] Broken Container [ ] Missing [ ]			
11.	Describe any anomalies: _____			
13.	Was P.M. notified of any anomalies? Yes [ ]	No [ ] Date _____		
14.	Received by E. Segura	Date: 1-25-01 Time: 10:00 AM		

Customer Sample No.	cpm	mr/hr	Customer Sample No.	Cpm	mr/hr

Ion Chamber Ser. No. _____ Calibration date _____

Survey Meter Ser No. _____ Calibration date _____